Bay State Gas

A NiSource Company

CAPITAL EXPENSE TRACKING

TABLE OF CONTENTS

CONSTRUCTION PROJECT PROCESS FLOW

ENGINEERING (E)

Determine what projects to be done and the scope of each project.

Send letters to request proposed work
Identify approximate length, size, and type of main
Initiate project

SALES (S)

New Business contact during design phase

New Business contact (design)

CONSTRUCTION (C)

Research project, determine layout, estimate construction costs; with support from Resource Planning and Maps & Records

Research within scope of project
Site visit
Gather service information
Detailed material list
Tie-in procedures
Traffic control plan
Estimate construction costs

ENGINEERING (E)

Review data from construction, start approval process

Project review
Create project ID and update file
Create an authorization

Prepare for large projects

Order special material
Create bid package
Easements, wetlands and other special permits

CONSTRUCTION (C)

Prepare for work to be done

Determine what work orders to be cut
Material issue tickets
Pre-marks
Locates
Calls Dig Safe
Notify customers of construction

RESOURCE PLANNING (RP)

Prepare paperwork for project; with support from Maps & Records

Permit sketches
Creates and sends permits
Generates work orders

CONSTRUCTION (C)

Schedule and begin construction; with support from Resource Planning

Second site visit if necessary
New Business contact (construction)
Pre-construction site visit
Schedule project
Manpower planning
Construction of project
Inspection including audit sheets
Field changes approved
Modify Estimate and Addendums as needed

ENGINEERING (E)

Revise estimate and get approvals as necessary

Revises estimate template
Make appropriate notifications

CONSTRUCTION (C)

Complete construction

Schedule tie-in crew
As-built drawings
Post construction site visit
Review and sign-off work orders
Approve invoices

RESOURCE PLANNING (RP)

Complete paperwork and process invoices

Completes authorization
Completes work orders
Matches invoices to daily PIS
Keys invoices
Checks final package for completeness
Run Special Project Cost Detail report

ENGINEERING (E)

Audits cost estimates vs. actuals, variance reports and approvals, and follow up

Conducts audit of cost estimate vs. actual
Variance report, approval, and follow-up

DISTRIBUTION (D)

Restoration Inspection

Conducts DTE restoration inspection

TASK RESPONSIBILITY MATRIX

E = Engineering
S = Sales
CT = Contractor

C = Construction
RP = Resource Planning
V = Vendor

D = Distribution
MR = Maps & Records
NA = Not Applicable

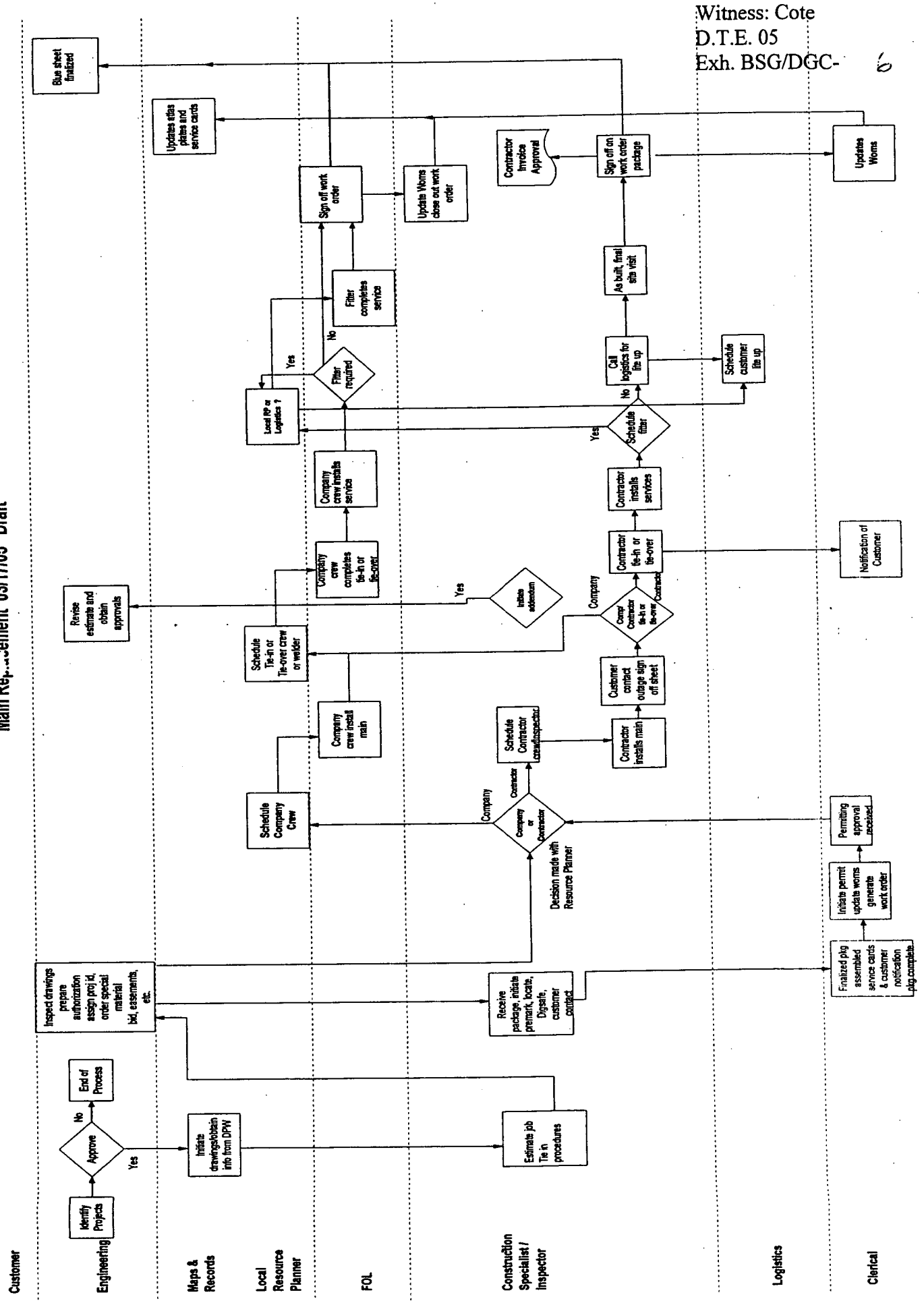
BR = Brockton Division
NH = New Hampshire

SP = Springfield Division
ME = Maine

LA = Lawrence Division

Task	Proposed	BR	SP	LA	NH	ME
Send letters to request proposed work	E	E	E	E	E	E
Initiate Project	E	E	E	E	E	E
New Business contact (design)	S	C	C	C	C	C
Research scope of project	C	E, MR	E, C	E, C	E	E, RP
Site Visit	C	E	E, C	C	E, C	C
Service information	C	E	E, C	C	E	E, RP
Detailed material list	C	E	C	C	E	E
Tie-in procedures	C	E	E	E, C	E	E, C
Traffic control plan	C	E	E	E	E	E
Estimate construction costs	C	E	E	E	E	E
Project Review	E					
Create Project ID and update file	E	E	E	E	E	E
Create an authorization	E	E	E	E	E	E
Orders special material	E	E	E	C	E	E
Writes up bid	E	E	E	E	E	E
Easments, wetlands, special permits	E	E	E	E	E	E
Determines what work orders cut	C	E	E	C	E	E
Material Issue Ticket	C	RP	C	CT	C	C
Pre-marks	C	C	C	C	C	C
Locates	C	C	C	C	C	D
Calls Dig Safe	C	RP	RP	C	C	RP
Notify customers of construction	C	C	C	C	C	C
Permit sketches	RP	RP	E	MR	C	C
Creates and sends permit	RP	RP	E	RP	C	RP
Generates work orders	RP	RP	RP	RP	RP	RP
Second site visit if necessary	C	C	C	C	C	C
New Business contact (construction)	C					
Pre-construction site visit	C, CT	C, CT	C, CT	CT	C, CT	C, CT
Schedule project	C, CT	C, CT	C, CT	C, CT	C, CT	C, CT
Manpower planning	C, RP	C, RP	C, RP	C, RP	C, RP	C, RP
Construction of project	CT	CT	CT	CT	CT	CT
Inspection including audit sheets	C	C	C	C	C	C

Task	Proposed	BR	SP	LW	NH	ME
Field changes approved	C	C	C	C	C	C
Revises estimate Template	E	E	NA	NA	NA	E
Make appropriate notifications	E					
Schedule Tie-in crew	C, RP	C, RP	C, RP	C	C	C
As-built drawings	C	C	CT	CT	CT	CT
Post construction site visit	C	C	C	C	C	C
Review and Sign-off work orders	C	C	C	C	C	C
Approves invoices	C	C	C	C	C	C
Completes Authorization	RP	C	C	C	C	C
Completes work orders	RP	RP	RP	RP	RP	RP
Matches bills to daily PIS	RP	C	RP	RP	RP	RP
Keys invoices	RP	RP	RP	RP	RP	RP
Checks final documentation for completeness	RP					
Conducts estimating audit to actuals	E	E	E	E	E	E
Variance reports, approvals, and follow up	E					
Conducts DTE restoration inspection	D	D, V	D	D	NA	NA


Main Re...cement 03/17/05 Draft
Customer
Engineering
Maps & Records
Local Resource Planner
FOL
Construction Specialist / Inspector
Logistics
Clerical
Identify Projects
Approve
No
Yes
End of Process
Initiate drawings/obtain info from DPW
Inspect drawings prepare authorization assign proj id, order special material bid, easements, etc.
Estimate job Tie in procedures
Receive package, initiate premark, locate, Digsafe, customer contact
Finalized pkg assembled service cards & customer notification pkg complete
Initiate permit update woms generate work order
Permitting approval received
Company or Contractor
Decision made with Resource Planner
Schedule Company Crew
Company crew install main
Schedule Contractor Lotsw/inspector
Contractor installs main
Customer contact outage sign off sheet
Compr Contractor tie-in or tie-over
Contractor tie-in or tie-over
Notification of Customer
Contractor installs services
Schedule fitter
Call logistics for fite up
Schedule customer fite up
As built, final site visit
Sign off on work order package
Contractor Invoice Approval
Updates Woms
Schedule Tie-in or Tie-over crew or welder
Company crew completes tie-in or tie-over
Company crew installs service
Initiate addendum
Revise estimate and obtain approvals
Local RP or Logistics ?
Fitter required
Fitter completes service
Sign off work order
Update Woms close out work order
Updates atlas plates and service cards
Blue sheet finalized

PROJECT IDENTIFICATION NUMBER

The project ID is an 8 position number, and follows the format below:

Position	Format	Explanation	Modifications
1	Division B- Brockton S- Springfield L– Lawrence M – Maine N- New Hampshire G – Granite X – Southern NH		This position will be selected by the system based on the users default division
2 –3	Fiscal Year ex: 05 06 07	This is the fiscal year in which the project began or is scheduled to begin. Some projects may scan more than one year. The project number would not have to be changed from year to year.	A selection for last year, current year, next year
4 - 5	Type of Project D0 – Growth D5 – Replacement (other than Bare Steel) B6 – Replacement Bare Steel (MA.) B9 – Individual BS service replacement C6 – Replacement Cast Iron (ME.) C9 – Individual Cast Iron Svc replacement (ME) if needed		Select from a table for type of project
6-8	Sequential Number ex: 001 002 003	The sequence will be maintained by Engineering	User will enter sequence number

Modifications to the Work Order Management System (WOMS) will include, building the project identification number based on information already known by the system and selections from the user. This will standardize the project ID number in the system. Edits at completion will verify correct selection.

PROJECT DEFINITION AND TRACKING

Project Definition

A Steel Infrastructure Replacement project will be defined as all the work on a segment of pipe with the main tie-ins defining the scope. This means that several inter connecting streets can be part of the same project. There will still be a requirement that estimates be done at street level in detail and Work Order Management System (WOMS) functionality will provide a basis to compare these estimates as needed by street.

All Steel Infrastructure Replacement projects will include all of the following; Replaced Mains, Service Replacements, Service Tie-Overs, Meter Relocates and Main Tie-Ins that connect to Steel mains. This work can be done at the same time or on an individual basis.

Project Tracking

Project ID's for Growth and Main Replacements other than Steel Infrastructure Replacement, will be used in the following manner

Growth

B05D0000	–	B05D4999	BROCKTON
S05D0000	–	S05D4999	SPRINGFIELD
L05D0000	–	L05D4999	LAWRENCE

Main Replacements (other than Steel Infrastructure Replacement)

B05D5000	–	B05D5999	BROCKTON
S05D5000	–	S05D5999	SPRINGFIELD
L05D5000	–	L05D5999	LAWRENCE

For the sole purpose of the Steel Infrastructure Replacement Tracking, the following groups of Project ID will be used.

Main Replacement for Steel Infrastructure Replacement program

B05B6000	-	B05B6999	BROCKTON
S05B6000	-	S05B6999	SPRINGFIELD
L05B6000	-	L05B6999	LAWRENCE

All individual steel services off a bare steel or unprotected coated steel main that is replaced prior to the main being replaced will be tracked using the following Project numbers:

B05B9999	-	Brockton
S05B9999	-	Springfield
L05B9999	-	Lawrence

The advantages of above tracking system include;

1. All Steel Infrastructure Replacement (SIR) work will be separated from other regular work such as Cast Iron replacement etc.
2. Even though there will be more than one estimate per authorization they should be easily analyzed at completion of project with the new reporting mechanisms being put in place.

MODIFICATIONS TO THE WORK ORDER MANAGEMENT SYSTEM (WOMS)

Project Estimates

WOMS will be modified to capture estimates by workorder. Estimates will be entered into WOMS manually for New Mains and Main Replacement orders. The estimated costs of the tie-ins will be added to the main replacement order. All other Distribution work will have a standard for each job code that will be entered into a table at the beginning of every year based on a historical average cost per unit. Estimates will be broken down by: labor, materials, purchases, and overheads.

The COSTS tab folder contains a column for Estimates and Actual costs. An estimate pop-up screen will appear during the "Create" workorder process for New Mains, and Main Replacement. An employee with a "user" or "admin" security will have this function. Estimates will be required upon completing the workorder. Since standard unit cost is used for all other job codes, the COST tab folder will not be available for updates for all other Distribution work.

Any Addendums to the original Main estimate will also need to be captured. Once the original estimate has been entered in WOMS, the "ADDENDUM" function on the COST tab folder will be used to add any addendums. This function will bring up another estimate worksheet to capture additional costs as well as a comments section explaining additional costs . The COST tab will always show the sum of original estimate plus any addendums. The Addendum button under the detail button will show history rows of the original estimate and all addendums. Addendums may be added until the workorder reaches a "final" status. "Admin" security will be needed to add any addendums.

.Net reports will be created:

Cost Variance Reports to track project costs subtotals at the street level.

Steel Infrastructure Replacement cost recovery reports will be created. Project ID rules will be used to determine the costs that are recoverable based on regulatory definition Executive Summary Report, Estimate vs. Actual Costs Reports, Late Dollars Report by Project, and DOT Retirement report by decade.

Project ID Rules

Entering a project id in WOMS will change. WOMS will be build the Project ID based on criteria it already knows and selection from the user. This will standardize the ID#. Special Project edit rules are required for the bare steel project.

1) If work code begins with an "MR" and retire pipe = BS/ UC a special project ID with a B6 in the 4th and 5th position of the project ID will be required.
2) For Service replacements associated with a Main Replacement project: work code begins with a "SR" and Exposed pipe = BS / UC and Retired pipe = BS/UC a special project id with a B6 in the 4th and 5th position of the project ID will be required.
3) For Service replacements not associated with a Main Replacement project: work code begins with a "SR" and Exposed pipe = BS / UC and Retired pipe

= BS/UC a special project id with a B9 in the 4th and 5th position of the project ID will be required.

4) Work code begins with a "TR" and exposed pipe = BS/UC a special project ID with a B6 in the 4th and 5th position will be required.
5) Work code begins with a "TI" will require a special project ID. Special project ID with a B6 in the 4th and 5th position will be considered recoverable.
6) Effective date 4/1/2005

UPCS Pipe Type

A new pipe type for exposed and retired pipe will be created to capture unprotected coated steel. The Coated steel option in WOMS will become CS-unknown. An new pipe type CP will be created to capture PROTECTED coated steel and UNPROTECTED coated steel will be UC.

Edits will include:

1) UC pipe year cannot be 1971 and greater
2) CP less than 1971 will prompt a message " Verify this pipe is protected"
3) How pipe tracks to A/M will need to be reviewed
4) Reports will need to be reviewed

Tie –In edits

1) SR, TI, TR, TN, and SN completed units = 1
2) TR, TN New pipe length cannot be greater than 10
3) TR, TN Retired pipe length cannot be greater than 10
4) Message for anything over 10 " Not valid for Tie-ins".

Main Edits

1) Completed Units = New Pipe length. Order will not completed until they are equal
2) Only one new pipe is allowed

Leak Cause

1) Add "Grease/tighten" cause
2) Edit on exposed = CI, PP, PI cause cannot be Corrosion

Exposed Pipe

Required on the following job codes:
LRMX, LRSX, CDMX, CDSX, RTMX, RTSN, SN, MN, MR, SR, TI, TR, TN, CXXX, RELX, RELM

Deactivate Stainless Steel

Work Order Coding Requirements

New Services & Service Renewals
1. New Pipe information
2. Exposed Pipe information (what your tying into)
3. Retired Pipe information (if it is a renewal)
4. Complete Unit = 1

New Mains
1. New Pipe Information
2. Exposed Pipe information (what your tying into)
3. Completed Unit = 1

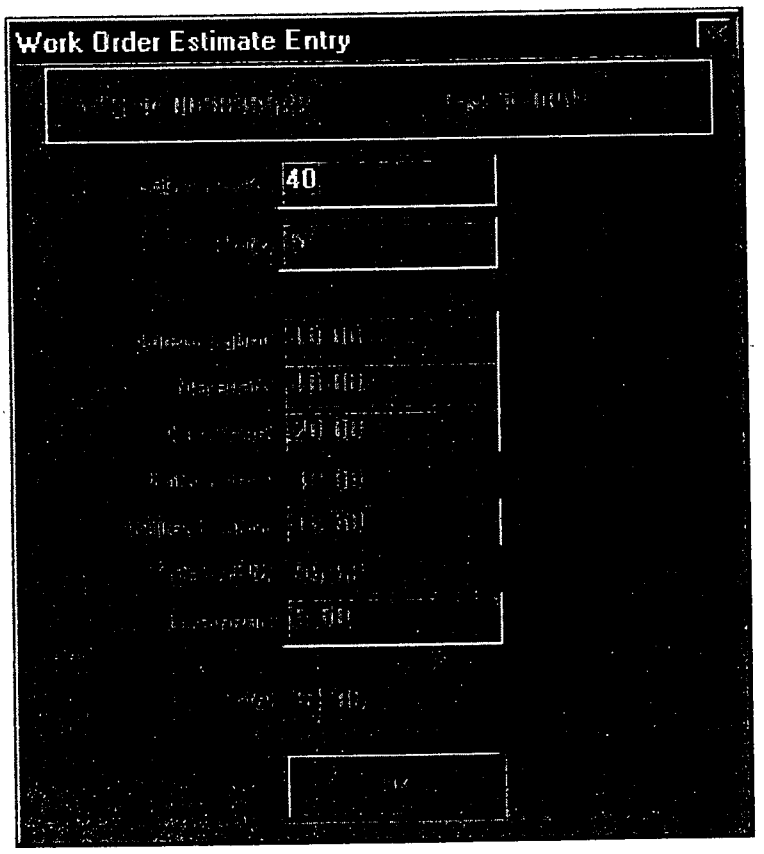
Tie In Mains
1. If needed – New Pipe information should be less than 10' (if greater than 10' the footage should be included on your main order)
2. Exposed Pipe information (is the new pipe information that was recently installed)
3. Complete Unit = 1

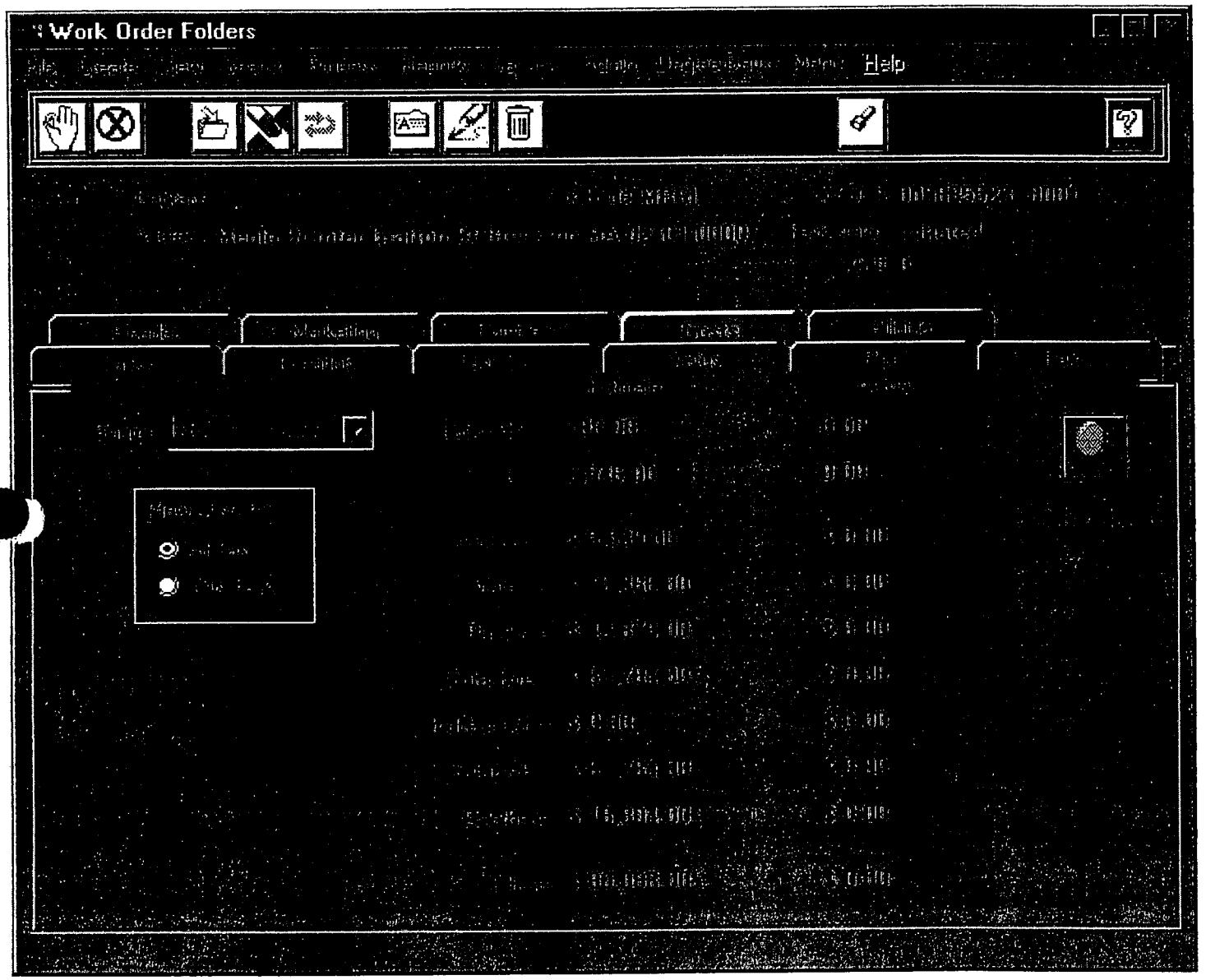
Replacement Main & Abandon Order
1. New Pipe information
2. Exposed Pipe information (what you are tying into)
3. Retired Pipe information
4. Completed Units = Total Footage Installed

Service Tie Overs
1. New Pipe information
2. Exposed Pipe information (is the new pipe information that was recently installed)
3. Retired Pipe information (in any)
4. Completed Unit = 1

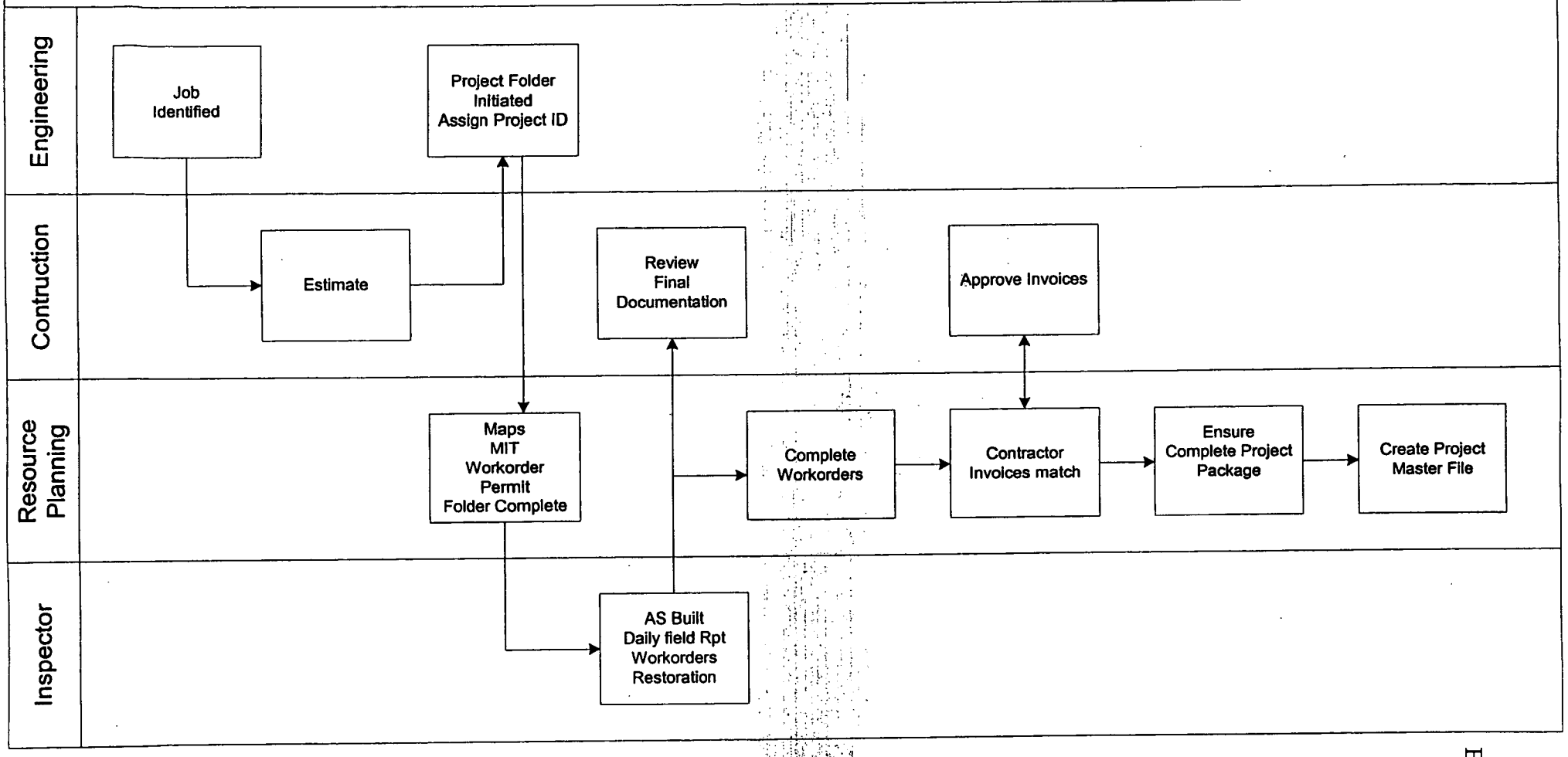
Main Tie Overs
1. New Pipe information (if any)
2. Exposed Pipe Information (2 lines needed – new pipe and what your tying into)
3. Retired Pipe information (if any)
4. Complete Unit =1

Inside main packages is the daily log form. Please make sure you fill out DAILY the footage that is installed
As always the remainder of the work order needs to be filled out along with who the contractor is and any restoration requirements


Work Order Estimate Entry
40


Work Order Folders
Help

Paper Flo Steel Infrastructure Replacement



* All documentation must be centrally field by Project ID

Dossier
File Must Contain: Authorization, Statement of Need, Estimates, Contractor Bids, Copies of Workorders, Project Cost eports, Addendums to project, Daily Field Installation Sheets, Invoices, Restoration Workorders

Witness: Cote
D.T.E. 05-27
Exh. BSG/DGC - 6

DOCUMENTATION RESPONSIBILITY MATRIX

Task	Responsibility
Project Initiation Document • Statement of need • Authorization • Contractor Bid Sheet	**Engineering**
Project Estimate • Addendums to project • Project estimation for each street	**Construction**
Project Closing Documents • Project Cost Reports • Project Variance Summary Report	**Construction**
Project Final Review • Final documentations for completeness • Audit of costs	**Engineering**
Project Documentation (by project level) • Copies of Workorders • Daily Field Installation Sheets • Invoices • Restoration Workorders • Special Project Cost Reports	**Resource Planning**

Critical Success Roles
Engineering • Documenting Scope and need for project • Final review of costs
Construction • Accuracy of Estimate • Quality of Work
Resource Planning • Proper Coding • Timeliness • Dossier / Package Completion

PROJECT DOSSIER – *SAMPLE*

- Authorization Form
  - Statement of need for the project
  - Rate of Return (if a revenue producing project)
  - Project Estimation (labor, purchases, materials and overhead costs) for each street
  - Pipe additions / retirements by street and workorder number
- Contractor Bid Sheet
- Summary of Contractor Bids
- MIT
- Copies of Workorders
- Work Order Management System (WOMS) Summary Project Cost Reports
- Work Order Management System (WOMS) Workorder Cost Detail Report
- Addendums to Project
- Project Variance Summary Report
  - Written narrative highlighting reasons for cost variance from estimates
- Daily Field Installation Reports
- Invoices
  - Contractor, Police and Sand
- Restoration Workorders

Witness: Cote
D.T.E. 05
Exh. BSG/DGC

BSG/NU COMPANY MAIN AUTHORIZATION ORDER

Field Loc: Proj#: 6

PROJECT ID# B99D5019

Work Code MRSIC

ROR / MIS:	NA
Hurdle Rate:	8.75%

DESCRIPTION OF PROJECT: MAIN REPLACEMENT - SYSTEM IMPROVEMENT

The replacement of this main is necessary to maintain the integrity of the system.

* Bay State Gas

Services 34

Cust Contribution = N/A

COST RECORD	BUDGET	ACTUAL	VARIANCE
Materials	84,774		
Company Labor	5,544		
Purchases	168,285		
Overheads	72,111		
Total	$330,714		

Today's Date: 01/28/99
Start Date:
Comp. Date:
Estimator: WAN
Sales Rep:
CIS #

SAMPLE

	Pipe Added Street Name and Town		Pipe Size	Pipe Type	Footage Estimate	Footage Actual	W.O. # Install	W.O. # Tie - In
1	Oldham St. & Brook St.	Pembroke & Hanson	12	CS	6190	4100' + 2090'	15670028	15670107
2	Arlene St.	Hanson	2	PP	520	537'	15670081	15670111
3							15670093	15670124
4								
5								
6								

	Pipe Retired Street Name and Town		Inst. Year	Pipe Size	Pipe Type	Footage Estimate	Footage Actual	W.O. # Install	W.O. # Tie - In
1	Oldham Street	Pembroke	1952	8.00	BS	4100	4100'	15670028	15670107
2	Brook Street	Hanson	1952	8.00	BS	2090	2090'	15670081	15670111
3	Arlene Street	Hanson	1954	2.00	CS	520	520'	15670093	15670124
4									
5									
6									

Please Sign and Date

Local Approval (Growth Projects)	Local Approval (Repl, Mun, Sys Imp)
CC Leader	Engineering Wayne A. Wayne
Sales Leader	Local Leader

	Residential
	C & I

	Growth
	Replacement
	Municipal
X	Sys Improve

Pressure
INT

CORPORATE APPROVAL OVER $25,000	
Sub Process Leader	
OVER $50,000	
Corporate Engineering	
Process Leader	
CFO	

Auth Form 8/98

Witness: Cote
D.T.E. 05
Exh. BSG/DGC 6

Bay State Gas Company
First St.
From: 6" main Menlo St.
To: Pole #5

Avon
Length: 200 feet
Size: 4 inch PP
Project ID #: 99999
Estimated: 08/11/98

A. Material

Quantity	Description		Price		Cost
200	feet of Plastic Pipe @		$2.52	per foot	$504
1	Tie-in Material @		$750.00	each	$750
0	Service Stock		$50.00	each	$0
0		0	$0.00	each	$0
0		0	$0.00	each	$0
	Miscellaneous Fittings add		0.00%		$0
				Sub Total	$1,254
	Overhead		80.40%		$1,008
				Total	$2,262

B. Company Labor

Hours		Price		Cost
4	Inspector hrs.	$23.17	per hour	$93
0	Sm. Tie-in Crew hrs.	$44.86	per hour	$0
4	Lg. Tie-in Crew hrs.	$65.34	per hour	$261
0	Service Tie-overs	$150.00	each	$0
			Sub Total	$354
	Overhead	71.30%		$252
			Total	$606

C. Contractor Charges

		Price		
200	feet of paved	$7.70	per foot	$1,540
0	feet of unpaved	$6.50	per foot	$0
0	ft of open trench, no bkfil	$2.65	per foot	$0
0	ft of open trench, no bkfil, sand only	$3.20	per foot	$0
0	ft of open trench, bkfil	$3.50	per foot	$0
0	ft of new development	$2.80	per foot	$0
13.3	cu. yds. of sand	$12.60	per cu.yd.	$168
4.0	cu. yds. of gravel	$12.60	per cu.yd.	$50
66.7	sq. yds. of asphalt	$22.00	per sq.yd.	$1,467
0.0	sq. yds. of loam & seed	$5.90	per sq.yd.	$0
4	hrs. for backhoe	$47.00	per hr.	$188
10	hrs. for traffic control	$25.00	per hr.	$250
0.0	cu. yds. of hand dig & backfill	$50.00	per cu.yd.	$0
0	hrs of hole hog	$124.00	per unit	$0
0	ln ft of sawcut	$1.60	per unit	$0
0	ln ft of trencher	$6.50	per unit	$0
4.0	Boulder Removal	$40.00	per cu.yd.	$160
0.0	Ledge Removal	$220.00	per cu.yd.	$0
	Contingency	0.00%		$0
	Additional			$0
			Sub Total	$3,823

Overhead Total	$1,261
Sub Total	$5,431
Grand Total	$6,692

main #1

Witness: Cote
D.T.E. 05
Exh. BSG/DGC- 6

Bay State Gas Company
Grafton St.(Tie-in)
From: 6"main Menlo St.
To: Grafton St.

Avon
Length: 30 feet
Size: 6 PP
Project ID #: 99999
Estimated: 08/11/98

A. Material

Quantity	Description	Price		Cost
30	feet of Plastic Pipe @	$5.14	per foot	$154
2	6" PC	$500.00	each	$1,000
1	6" Poly Valve	$840.00	each	$840
4	6" Transition Fittings	$95.00	each	$380
4	6" 45D Ells, W.E.	$15.00	each	$60
0	Service Stock	$50.00	each	$0
	Miscellaneous Fittings add	0.00%		$0
			Sub Total	$2,434
	Overhead	80.40%		$1,957
			Total	$4,391

B. Company Labor

Hours		Price		Cost
4	Inspector hrs.	$23.17	per hour	$93
0	Sm. Tie-in Crew hrs.	$44.86	per hour	$0
8	Lg. Tie-in Crew hrs.	$65.34	per hour	$523
0	Service Tie-overs	$150.00	each	$0
			Sub Total	$615
	Overhead	71.30%		$439
			Total	$1,054

C. Contractor Charges

30	feet of paved	$8.00	per foot	$240
0	feet of unpaved	$6.70	per foot	$0
0	feet of open no backfill	$3.20	per foot	$0
0	feet of open with backfill	$4.00	per foot	$0
0	feet of open, sand only	$6.35	per foot	$0
3.0	cu. yds. of sand	$12.62	per cu.yd.	$38
0.6	cu. yds. of gravel	$15.45	per cu.yd.	$9
10.0	sq. yds. of asphalt (5" Base Only)	$30.90	per sq.yd.	$309
0.0	sq. yds. of loam & seed	$5.97	per sq.yd.	$0
8	hrs. for backhoe	$46.97	per hr.	$376
0	hrs. for traffic control	$25.00	per hr.	$0
0	Culvert Crossing	$6,000.00	per unit	$0
0	0	$0.00	per unit	$0
0	0	$0.00	per unit	$0
0	0	$0.00	per unit	$0
0.6	Boulder Removal	$46.35	per cu.yd.	$28
0.0	Ledge Removal	$149.35	per cu.yd.	$0
	Contingency	0.00%		$0
	Additional			$0
			Sub Total	$1,000

Overhead Total	$2,396
Sub Total	$4,049
Grand Total	$6,445

main #7

Witness: Cote
D.T.E. 05
Exh. BSG/DGC 6

Bay State Gas Company
Third St. (Tie-in)
From: 6"main Menlo St.
To: Grafton St.

Avon
Length: 30 feet
Size: 4 inch PP
Project ID #: 99999
Estimated: 08/11/98

A. Material

Quantity	Description		Price		Cost
30	feet of Plastic Pipe @		$2.52	per foot	$76
1	Tie-in Material @		$750.00	each	$750
0	Service Stock		$50.00	each	$0
0		0	$0.00	each	$0
0		0	$0.00	each	$0
	Miscellaneous Fittings add		0.00%		$0
				Sub Total	$826
	Overhead		80.40%		$664
				Total	$1,489

B. Company Labor

Hours		Price		Cost
4	Inspector hrs.	$23.17	per hour	$93
0	Sm. Tie-in Crew hrs.	$44.86	per hour	$0
4	Lg. Tie-in Crew hrs.	$65.34	per hour	$261
0	Service Tie-overs	$150.00	each	$0
			Sub Total	$354
	Overhead	71.30%		$252
			Total	$606

C. Contractor Charges

		Price		
30	feet of paved	$7.70	per foot	$231
0	feet of unpaved	$6.50	per foot	$0
0	ft of open trench, no bkfil	$2.65	per foot	$0
0	ft of open trench, no bkfil, sand only	$3.20	per foot	$0
0	ft of open trench, bkfil	$3.50	per foot	$0
0	ft of new development	$2.80	per foot	$0
2.0	cu. yds. of sand	$12.60	per cu.yd.	$25
0.6	cu. yds. of gravel	$12.60	per cu.yd.	$8
10.0	sq. yds. of asphalt	$31.00	per sq.yd.	$310
0.0	sq. yds. of loam & seed	$5.90	per sq.yd.	$0
4	hrs. for backhoe	$47.00	per hr.	$188
4	hrs. for traffic control	$25.00	per hr.	$100
0.0	cu. yds. of hand dig & backfill	$50.00	per cu.yd.	$0
0	hrs of hole hog	$124.00	per unit	$0
0	In ft of sawcut	$1.60	per unit	$0
0	In ft of trencher	$6.50	per unit	$0
0.6	Boulder Removal	$40.00	per cu.yd.	$24
0.0	Ledge Removal	$220.00	per cu.yd.	$0
	Contingency	0.00%		$0
	Additional			$0
			Sub Total	$886

Overhead Total	$916
Sub Total	$2,065
Grand Total	$2,982

main #1

Witness: Cote
D.T.E. 05
Exh. BSG/DGC- 6

Bay State Gas Company
Longwood Ave.(Tie-in)
From: 6"main Menlo St.
To: Longwood Ave.

Avon
Length: 10 feet
Size: 4 inch PP
Project ID #: 99999
Estimated: 08/11/98

A. Material

Quantity	Description		Price		Cost
10	feet of Plastic Pipe @		$2.52	per foot	$25
1	Tie-in Material @		$750.00	each	$750
0	Service Stock		$50.00	each	$0
0		0	$0.00	each	$0
0		0	$0.00	each	$0
	Miscellaneous Fittings add		0.00%		$0
				Sub Total	$775
	Overhead		80.40%		$623
				Total	$1,398

B. Company Labor

Hours		Price		Cost
4	Inspector hrs.	$23.17	per hour	$93
0	Sm. Tie-in Crew hrs.	$44.86	per hour	$0
4	Lg. Tie-in Crew hrs.	$65.34	per hour	$261
0	Service Tie-overs	$150.00	each	$0
			Sub Total	$354
	Overhead	71.30%		$252
			Total	$606

C. Contractor Charges

		Price		
10	feet of paved	$7.70	per foot	$77
0	feet of unpaved	$6.50	per foot	$0
0	ft of open trench, no bkfil	$2.65	per foot	$0
0	ft of open trench, no bkfil, sand only	$3.20	per foot	$0
0	ft of open trench, bkfil	$3.50	per foot	$0
0	ft of new development	$2.80	per foot	$0
0.7	cu. yds. of sand	$12.60	per cu.yd.	$8
0.2	cu. yds. of gravel	$12.60	per cu.yd.	$3
3.3	sq. yds. of asphalt	$130.00	per sq.yd.	$130
0.0	sq. yds. of loam & seed	$5.90	per sq.yd.	$0
4	hrs. for backhoe	$47.00	per hr.	$188
0	hrs. for traffic control	$25.00	per hr.	$0
0.0	cu. yds. of hand dig & backfill	$50.00	per cu.yd.	$0
0	hrs of hole hog	$124.00	per unit	$0
0	ln ft of sawcut	$1.60	per unit	$0
0	ln ft of trencher	$6.50	per unit	$0
0.2	Boulder Removal	$40.00	per cu.yd.	$8
0.0	Ledge Removal	$220.00	per cu.yd.	$0
	Contingency	0.00%		$0
	Additional			$0
			Sub Total	$414

Overhead Total	$876
Sub Total	$1,543
Grand Total	$2,419

main #1

Witness: Cote
D.T.E. 05
Exh. BSG/DGC- 6

Bay State Gas
Menlo St.
From: Bouve Ave.
To: Warren Ave.

Brockton
Length: 2546 feet
Size: 6 PP
Project ID #: B98D5056
Estimated: 07/31/98

A. Material

Quantity	Description	Price		Cost
2546	feet of Plastic Pipe @	$5.14	per foot	$13,086
2	6" PC	$500.00	each	$1,000
1	6" Poly Valve	$840.00	each	$840
4	6" Transition Fittings	$95.00	each	$380
4	6" 45D Ells, W.E.	$15.00	each	$60
0	Service Stock	$50.00	each	$0
	Miscellaneous Fittings add	0.00%		$0
			Sub Total	$15,366
	Overhead	80.40%		$12,355
			Total	$27,721

B. Company Labor

Hours		Price		Cost
36	Inspector hrs.	$23.17	per hour	$834
0	Sm. Tie-in Crew hrs.	$44.86	per hour	$0
72	Lg. Tie-in Crew hrs.	$65.34	per hour	$4,704
0	Service Tie-overs	$150.00	each	$0
			Sub Total	$5,539
	Overhead	71.30%		$3,949
			Total	$9,488

C. Contractor Charges

2546	feet of paved		$6.70 per foot	$17,058
0	feet of unpaved		$5.50 per foot	$0
0	feet of open no backfill		$1.60 per foot	$0
0	feet of open with backfill		$2.10 per foot	$0
0	feet of open, sand only		$2.50 per foot	$0
254.6	cu. yds. of sand		$12.62 per cu.yd.	$3,213
50.92	cu. yds. of gravel		$15.45 per cu.yd.	$787
848.7	sq. yds. of asphalt (2" Base Only)		$16.00 per sq.yd.	$13,579
0.0	sq. yds. of loam & seed		$5.97 per sq.yd.	$0
72	hrs. for backhoe		$46.97 per hr.	$3,382
100	hrs. for traffic control		$25.00 per hr.	$2,500
0	Culvert Crossing		$6,000.00 per unit	$0
0		0	$0.00 per unit	$0
0		0	$0.00 per unit	$0
0		0	$0.00 per unit	$0
50.9	Boulder Removal		$46.35 per cu.yd.	$2,360
0.0	Ledge Removal		$149.35 per cu.yd.	$0
	Contingency		0.00%	$0
	Additional			$0
			Sub Total	$42,879

Overhead Total	$16,304
Sub Total	$63,784
Grand Total	$80,087

main #7

Witness: Cote
D.T.E. 05
Exh. BSG/DGC- 6

Bay State Gas
Menlo St.
From: Bouve Ave.
To: Warren Ave.

Brockton
Length: 2546 feet
Size: 6 PP
Project ID #: B98D5056
Estimated: 07/31/98

A. Material

Quantity	Description	Price		Cost
2546	feet of Plastic Pipe @	$5.14	per foot	$13,086
2	6" PC	$500.00	each	$1,000
1	6" Poly Valve	$840.00	each	$840
4	6" Transition Fittings	$95.00	each	$380
4	6" 45D Ells, W.E.	$15.00	each	$60
0	Service Stock	$50.00	each	$0
	Miscellaneous Fittings add	0.00%		$0
			Sub Total	$15,366
	Overhead	80.40%		$12,355
			Total	$27,721

B. Company Labor

Hours		Price		Cost
36	Inspector hrs.	$23.17	per hour	$834
0	Sm. Tie-in Crew hrs.	$44.86	per hour	$0
72	Lg. Tie-in Crew hrs.	$65.34	per hour	$4,704
0	Service Tie-overs	$150.00	each	$0
			Sub Total	$5,539
	Overhead	71.30%		$3,949
			Total	$9,488

C. Contractor Charges

2546	feet of paved	$6.70	per foot	$17,058
0	feet of unpaved	$5.50	per foot	$0
0	feet of open no backfill	$1.60	per foot	$0
0	feet of open with backfill	$2.10	per foot	$0
0	feet of open, sand only	$2.50	per foot	$0
254.6	cu. yds. of sand	$12.62	per cu.yd.	$3,213
50.92	cu. yds. of gravel	$15.45	per cu.yd.	$787
848.7	sq. yds. of asphalt (2" Base Only)	$16.00	per sq.yd.	$13,579
0.0	sq. yds. of loam & seed	$5.97	per sq.yd.	$0
72	hrs. for backhoe	$46.97	per hr.	$3,382
100	hrs. for traffic control	$25.00	per hr.	$2,500
0	Culvert Crossing	$6,000.00	per unit	$0
0	0	$0.00	per unit	$0
0	0	$0.00	per unit	$0
0	0	$0.00	per unit	$0
50.9	Boulder Removal	$46.35	per cu.yd.	$2,360
0.0	Ledge Removal	$149.35	per cu.yd.	$0
	Contingency	0.00%		$0
	Additional			$0
			Sub Total	$42,879

Overhead Total	$16,304
Sub Total	$63,784
Grand Total	$80,087

main #7

Tie in all side streets

Witness: Cote
D.T.E. 05
Exh. BSG/DGC- 6

PIPE INSTALLATION STUDY SHEET

Name Bay State Gas Company Date July 28 1998

Street Merle Street Town Brockton

From: Bowe ave To: Warren ave

Work or Condition: Replace gas Main

Pipe Required: Main 2546 ft. Service _____ ft.

Number of main tie - overs: Long 4 Short 3

Number of service tie - overs: Long 24 Short 20

Permit Required: State _____ Station _____ Town ✓

Equipment and Labor

Contractor		Company	
Backhoe	72 hrs	Small Tie - in Crew	hrs
Hand Digging	ft	Large Tie - in Crew	72 hrs
Driven	ft	Backhoe	hrs
Other		Traffic Control	100 hrs
		Other	

Digging Conditions

Hard Digging: Much ledge and large boulders visible along proposed trench. Complete length of trench requires sand and gravel. ☐

Rough Digging: Boney conditions; some ledge and boulders visible along proposed trench. Complete length of trench requires sand and some gravel.

Moderate Digging: Small diameter rock visiable along proposed trench. Complete trench requires sand and some gravel. ✓

Good Digging: Little or no rock visiable along proposed trench. Some sand necessary. ☐

2546

Surface Restoration: Blacktop ✓ Concrete _____ Loam & Seed _____

Dig Safe Required: Water ✓ Sewer ✓ Electric ___ Telephone ✓ Cable ✓ Other _____

Reason for Replacement (Attach all maps & records pertaining to replacement)

Municipal Improvements

r Pipe Installed 6" CI 1904 Number of Clamps or Leaks _____

Miscellaneous Notes: _____

Witness: Cote
D.T.E. 05
Exh. BSG/DGC- 6

PIPE INSTALLATION STUDY SHEET

ame Bay State Gas Company Date 08/11/98

Street First Street Town Brockton

From: 6" main Menlo st. To: pole #5

Work or Condition: Replace gas main (install new 4" pp main)

Pipe Required: Main 200 ft. Service ft.

Number of main tie - overs: Long 0 Short 0

Number of service tie - overs: Long Short 2

Permit Required: State Station Town

SAMPLE

Equipment and Labor

Contractor		Company	
Backhoe	4 hrs	Small Tie - in Crew	hrs
Hand Digging	ft	Large Tie - in Crew	4 hrs
Driven	ft	Backhoe	hrs
Other		Traffic Control	10 hrs
		Other	

Digging Conditions

Hard Digging: Much ledge and large boulders visible along proposed trench. Complete length of trench requires sand and gravel. ☐

Rough Digging: Boney conditions; some ledge and boulders visible along proposed trench. Complete length of trench requires sand and some gravel. ☐

Moderate Digging: Small diameter rock visiable along proposed trench. Complete trench requires sand and some gravel. ☑

Good Digging: Little or no rock visiable along proposed trench. Some sand necessary. ☐

Surface Restoration: Blacktop Concrete Loam & Seed

Dig Safe Required: Water ✓ Sewer ✓ Electric ✓ Telephone ✓ Cable ✓ Other

Reason for Replacement (Attach all maps & records pertaining to replacement)

ar Pipe Installed 2" WI - 1945 Number of Clamps or Leaks

Miscellaneous Notes:

CUSTOS[redacted]NFORMATION SYSTEM
DISTF[redacted] 610 BROCKTON

ALPHABATIC STRE[redacted]STING REPORT
JUNE C[redacted] 2003

[redacted] 1731

PRINTED: 05/31/2003 09:54:37

SITE ID	ISSEQ NUM	CUSTOMER NAME	CUST TYP	SERVICE ADDRESS		IS STAT	PHONE #	LOAD #	BASE	UDI
900503002	0001	CANTON LIQUOR & WINE	C	626 WASHINGTON ST	CANTON MA	ON	Not Avail	000005049	39.257580-	0.235
813803008	0001	KING LARRY	C	635 WASHINGTON ST APT 1&2	CANTON MA	ON	781-821-0229	000005049	117.113760	0.192
458803000	0001	ANN KING	C	635 WASHINGTON ST APT 3	CANTON MA	ON	781-828-9890	000005049	3.605190	0.039
502703001	0001	ANN KING	C	635 WASHINGTON ST APT 4	CANTON MA	ON	781-828-9890	000005049	38.602650-	0.378
211903009	0001	SUNRISE BAKERY AND CAFE	C	635A WASHINGTON ST	CANTON MA	ON	Not Avail	000005049	9.999930	0.230
558803000	0001	ZERVOS DIAMANGIS	C	636 WASHINGTON ST BLDG #4 APT	CANTON MA	ON	781-828-0626	000005049	3.001950-	0.014
913803008	0001	ZERVOS DIAMANTIS	C	636 WASHINGTON ST BLDG 1 APT	CANTON MA	ON	781-828-0626	000005049	7.282110-	0.095
311903009	0001	SAPOUNAKIS GEORGE	C	636 WASHINGTON ST BLDG 2 APT	CANTON MA	ON	781-828-4040	000005049	14.986620-	0.069
602703001	0001	ZERVOS DIAMANTIS	C	636 WASHINGTON ST BLDG 4 APT	CANTON MA	ON	781-828-0626	000005049	20.290440-	0.142
010503002	0001	ZERVOS DIAMANTIS	C	636 WASHINGTON ST BLDG 5 APT	CANTON MA	ON	781-828-0626	000005049	3.819540-	0.117
661803007	0001	MIKES LUNCH	C	645 WASHINGTON ST	CANTON MA	ON	781-828-3058	000005049	39.616320	0.100
288603004	0001	OBRIEN, WILLIAM	R	649 WASHINGTON ST APT 2FLR	CANTON MA	ON	781-575-9439	000005049	13.025010	0.005
615703005	0001	POCH, SAMUEL	R	649 WASHINGTON ST BLDG 1ST AP	CANTON MA	ON	781-828-4840	000005049	12.416880	0.120
570803006	0001	TASSIOPOULOS, DEMETRI	R	651 WASHINGTON ST	CANTON MA	ON	781-821-0114	000005049	14.104320	0.012
023803008	0001	APOLLO SUB & PIZZA	C	651 WASHINGTON ST	CANTON MA	ON	781-821-0114	000005049	313.990680	0.147
761803007	0001	MASCOT PETROLEUM	C	652 WASHINGTON ST	CANTON MA	ON	781-670-3312	000005049	1.065870	0.001
658803000	0001	655 WASHINGTON ST LLC	W C	655 WASHINGTON ST	CANTON MA	ON	781-828-9258	000005049	46.388310-	0.276
411903009	0001	P P & C ENTERPRISES INC	C	655 WASHINGTON ST	CANTON MA	ON	781-821-2396	000005049	116.099880	0.113
711903009	0001	CANTON HOUSING AUTHORITY	C	660 WASHINGTON ST	CANTON MA	ON	781-828-5144	000005050	449.983710	2.185
561803007	0001	CANTON POST OFFICE	C	661 WASHINGTON ST	CANTON MA	ON	781-828-0416	000005049	62.440860	.6724
415703005	0001	CANTON COOP BANK	C	671 WASHINGTON ST	CANTON MA	ON	781-828-8811	000005050	78.463980	.6560
708803000	0001	ST JOHNS SCHOOL	C	696 WASHINGTON ST	CANTON MA	ON	781-828-0413	000005050	74.899890	.0255

5629660 (R)
5629661
(R)
5629663
5629664
5629665 (R)
5629681 (R)
5629683 (T)
5629684 (T)

622 Wash. St. 5629658
670 Wash St. 5629701
701 Wash St. 5629705

Received

D.T.E. 05-6
Exh. BSG/DGC-1
Witness: Cote

Witness: Cote
D.T.E. 05
Exh. BSG/DGC- 6

BID PROPOSAL

BAY STATE GAS COMPANY BROCKTON DIVISION

PROJECT NAME: S. Main St. Attleboro - Central Ave.

Seekonk , MA

7100' of 12" CS High pressure main replacement
180' of 2" PP high pressure main replacement

The undersigned contractor hereby agrees to supply the necessary labor and equipment to install the following gas mains and services at the prices indicated.

All work shall be done in accordance to the Bay State Gas Company's Operating and Maintenance Procedures and standard specifications.

The pipe is 12" Coated Steel Pipe.

The pipe is 6" Coated Steel Pipe.

The pipe is 2" PE pipe

Minimum cover over the pipe shall be 36".

Minimum of 6" thick asphalt roadway will be cut.

All trench estimates and related payments are based on a 24" wide trench. Any deviation at a specific location must be pre-approved by a Bay State Gas Company representative to be considered for payment.

The Contractor shall repair any damage to existing utilities resulting from construction at their own expense.

The Contractor may excavate test pits, as necessary, in advance of the work to determine the actual location of all existing utilities.

All extras shall be considered for payment only when pre-approved by a Bay State Gas Company representative.

All trenches under the hardened surface must be paved by the end of each work day. Temporary patch subject to company approval but not paid as an extra.

Approximately 1640 linear feet of sidewalk will be replaced 4' wide with 2" (thick permanent patch (base) and 1" sidewalk mix (permanent top)

Approximately 4260 linear feet of trench will be restored with 3" thick permanent patch (Base) and 1 1/2" cap (top). This includes stub mains.

Approximately 1150 linear feet of trench will be restored with loam & seed.

Approximately 40 linear feet of concrete driveway will be saw-cut and replaced.

The trench shall have a layer of sand 6" deep before the pipe is laid. After the pipe is laid on the sand bed, the trench shall be filled with suitable backfill material (4" minus).

Backfilling shall be done in layers not exceeding 6" in depth and each layer shall be thoroughly compacted.

All excavations will be compacted to a 95% compaction rate.
The Bay State Gas Company reserves the right to test or have tested any backfilled and/or surface restoration material to verify its composition and/or quantity. We also reserve the right to have the compaction rate tested by an independent consultant using a nuclear densitometer. If compaction rate is less than the rate specified above, the contractor will correct the situation at his cost.

The trench will be filled with a clean fill material, using spoil where suitable and acceptable. Additional backfill material may be bank run gravel (4" or smaller) .

Any curbing disturbed must be replaced or reset.

Section #1 shall be pressure tested at 300 psig for 4 hours and recorded with a pressure recording gauge provided by the Bay State Gas Co.

Section #2 shall be pressure tested at 150 psig for 4 hours and recorded with a pressure recording gauge provided by the Bay State Gas Co.

Section #3 shall be pressure tested at 150 psig for 4 hours and recorded with a pressure recording gauge provided by the Bay State Gas Co.

The Contractor will be responsible for the repair of all trench settlements caused by improper backfilling and compacting for a period of 18 months.

The contractor will comply with all applicable laws, rules and regulations of governmental authorities and agrees to indemnify and save the purchaser harmless from and against and any all liabilities, claims, costs, losses, and judgments arising from or based on any actual or asserted violation by the contractor of any such applicable laws, rules and regulations.

The Contractor will correct all situations, due to construction, that cause complaints by abutters, Town officials, or state officials.

All pipe will be delivered to the job location at the ***Attleboro Gate Station.***

All fittings will be located at the ***Brockton Warehouse.***

The permitting will be handled by Bay State Gas Co.

All traffic control invoices will be paid by the company, but *scheduled by the contractor.*

The contractor will be responsible for all invoices incurred due to their rescheduling or cancellation of work.

All work shall be done according to the drawings and sketches attached. These drawings and sketches shall be considered as part of these specifications.

200' of haybales shall be required at culvert.

Include 7 - 12" offsets in the per foot cost.

See plans for fittings also.

All of the above items will be included in the Contractor's per foot cost.

Proposal to be submitted no later than: March 25, 1999

Proposed starting date: April 15, 1999

Proposed completion date: July 1, 1999

1) ANTICIPATED WORK COSTS

The main per foot cost shall include cutting, complete excavation, pavement removal, hauling, installation of pipes, fittings, mitres, valves, jeeping, anodes, test leads, road boxes; warning tape, tracer wire, backfilling, compacting, restoration of surface (temporary paving and permanent paving), internal cleaning with approved pigs, testing and purging.

The lump sum main stub cost shall include complete excavation, pavement removal, hauling, installation of pipes, fittings, valves, anodes, jeeping, test leads, road boxes, warning tape, tracer wire, backfilling, compacting, restoration of surface (loam & seed, temporary paving and permanent paving), testing and purging.

The lump sum service replacement cost (by insertion) shall include complete excavation, pavement removal, hauling, installation of pipes, fittings, flow limitors, anodes, test leads, road boxes, warning tape, tracer wire, backfilling, compacting, restoration of surface (Loam and seed, temporary paving and permanent paving), testing and purging.

* NOTE: The **main per foot cost, lump sum main stub cost** and the **lump sum service replacement cost** *does not* include sand, gravel, boulder removal and ledge removal. These items shall be paid on a per unit price.

7300	ft. of 12" Coated Steel Pipe	at $_____ per lin. ft.
1	lump sum main stub (6" coated steel long side)	at $_____ per each
1	lump sum main stub (4" Plastic pipe short side)	at $_____ per each
* 5	lump sum main stub (2" plastic short side)	at $_____ per each
1	lump sum main stub (2" plastic long side)	at $_____ per each
5	lump sum service repl. (long side - insert)	at $_____ per each
14	lump sum service repl. (short side - insert)	at $_____ per each
3	lump sum service repl. (long side - non - insert)	at $_____ per each
9	lump sum service Tie-over	at $_____ per each
150	cu. yds. boulder removal (over 1/2 cu. yd.)	at $_____ per cu. yd.
500	cu. yds. concrete sand (spec. ASTM C-33)	at $_____ per cu. yd.
150	cu. yds. bank run gravel (4" or smaller)	at $_____ per cu. yd.

Signed by: _____ Date: _____

Contractor: _____

S. MAIN ST, ATTLEBORO- CENTRAL ST, SEEKONK
EXTRA WORK COSTS

Wages, equipment, and costs for unanticipated work shall receive prior approval from a Bay State Gas Co. representative and will be billed at the prices indicated below.

Saw cut asphalt (single cut)	at $_____	per 1"/ ft.
Pavement removal (over the expected thickness)	at $_____	per 1"/ ft.
Extra depth (per 1' over specified depth) including shoring	at $_____	per lin. ft.
Reset granite curb	at $_____	per lin. ft.
Boulder removal (over 1/2 cu. yd.)	at $_____	per cu. yd.
Ledge removal (blasting)	at $_____	per cu. yd.
Ledge removal (no blasting)	at $_____	per cu. yd.
Concrete and cobblestone removal	at $_____	per cu. yd.
Concrete sidewalk removal	at $_____	per cu. yd.
Concrete sidewalk replacement	at $_____	per cu. yd.
Process gravel	at $_____	per cu. yd.
Bank run gravel (4" or smaller)	at $_____	per cu. yd.
Concrete sand (Spec. ASTM C-33) in place	at $_____	per cu. yd.
Concrete replacement	at $_____	per cu. yd.
Permanent pavement (2 1/2" base, 1 1/2" top course)	at $_____	per sq. yd.
Permanent pavement (base only)	at $_____	per sq. yd.
Temporary pavement	at $_____	per sq. yd.
Rake and seed	at $_____	per sq. yd.
4" thick loam and seed	at $_____	per sq. yd.
1/2" crushed stone (3" thick)	at $_____	per sq. yd.
Extra12" weld	at $_____	per each
Extra 8" weld	at $_____	per each
Extra 6" weld	at $_____	per each
Extra 4" weld	at $_____	per each
Extra 2" weld	at $_____	per each
Extra 2" fusion	at $_____	per each
Extra 4" fusion	at $_____	per each
Backhoe and operator	at $_____	per hr.
Welder and rig	at $_____	per hr.
Foreman	at $_____	per hr.
Laborer	at $_____	per hr.
Driver	at $_____	per hr.
Service truck (with tools)	at $_____	per hr.
Dump truck	at $_____	per hr.
Compressor	at $_____	per hr.
Shoring (other than just extra depth)	at $_____	(unit?)

Signed by: _____ Date: _____

Contractor: _____

Pine St Witness: Art
D.T.E. 05
Exh. BSG/DGG Silver
• Wayne

NEUCO

BAY STATE GAS COMPANY
PRICING AGREEMENT FOR
PINE ST., ATTLEBORO
3375' of 8" CS & 705' of 2" PP High pressure main replacement
1) ANTICIPATED WORK COSTS

The main per foot cost shall include cutting, complete excavation, pavement removal, hauling, installation of pipes, fittings, jeepings, mitres, valves, anodes, test leads, road boxes; warning tape, tracer wire, backfilling, compacting, restoration of surface (temporary paving and permanent paving), internal cleaning with approved pigs, testing and purging.

The lump sum main stub cost shall include complete excavation, pavement removal, hauling, installation of pipes, fittings, jeepings, valves, anodes, test leads, road boxes, warning tape, tracer wire, backfilling, compacting, restoration of surface (loam & seed, temporary paving and permanent paving), testing and purging.

The lump sum service replacement cost (by insertion) shall include complete excavation, pavement removal, hauling, installation of pipes, fittings, jeepings, flow limitors, anodes, test leads, road boxes, warning tape, tracer wire, backfilling, compacting, restoration of surface (Loam and seed, temporary paving and permanent paving), testing and purging.

* NOTE: The main per foot cost, lump sum main stub cost and the lump sum service replacement cost does not include sand, gravel, boulder removal and ledge removal. These items shall be paid on a per unit price.

SAMPLE

Qty	Item	N.E.U.C.O. PRICE	TOTAL
3375	ft. of 8" Coated Steel Pipe		
705	ft. of 2" Plastic Pipe		
1	lump sum main stub (4" steel short side) ✓		
1	lump sum main stub (4" steel long side) ✓		
1	lump sum main stub (2" steel short side)		
12	lump sum service repl. (long side - insert)		
32	lump sum service repl. (short side - insert)		
13	lump sum service Tie-over		
90	cu. yds. boulder removal (over 1/2 cu. yd.)		
290	cu. yds. concrete sand (spec. ASTM C-33)		
90	cu. yds. bank run gravel (4" or smaller)		
	TOTAL		

G2095002
G2095002

F:\LOTUS\MAINBID\MPINE99.WK4

PINE ST., ATTLEBORO

N.E.U.C.O.	Witness: Cote ~~D.T.E. 05~~ Exh. BSG/DGC- 6

2) EXTRA WORK COSTS

Wages, equipment, and costs for unanticipated work shall receive prior approval from a Bay State Gas Co. representative and will be billed at the prices indicated below.

Saw cut asphalt (single cut)	at $_
Pavement removal (over the expected thickness)	at $_
Extra depth (per 1' over specified depth) including shoring	at $_
Reset granite curb	at $_
Boulder removal (over 1/2 cu. yd.)	at $_
Ledge removal (blasting)	at $_
Ledge removal (no blasting)	at $_
Concrete and cobblestone removal	at $_
Concrete sidewalk removal	at $_
Concrete sidewalk replacement	at $_
Process gravel	at $_
Bank run gravel (4" or smaller)	at $_
Concrete sand (Spec. ASTM C-33) in place	at $_
Concrete replacement	at $_
Permanent pavement (2 1/2" base, 1 1/2" top course)	at $_
Permanent pavement (base only)	at $_
Temporary pavement	at $_
Rake and seed	at $_
4" thick loam and seed	at $_
1/2" crushed stone (3" thick)	at $_
Extra 8" weld	at $_
Extra 4" weld	at $_
Extra 2" weld	at $_
Extra 2" fusion	at $_
Backhoe and operator	at $_
Welder and rig	at $_
Foreman	at $_
Laborer	at $_
Driver	at $_
Service truck (with tools)	at $_
Dump truck	at $_
Compressor	at $_
Shoring (other than just extra depth)	at $_

Signed by: _____ Date: _____
Contractor: _____

Witness: Cote
D.T.E. 05
Exh. BSG/DGC- 6

MATERIAL ISSUE TICKET

DOC 288871
9/20/04

COMPANY LOCATION: 4000 / 995

COMMENTS: Washington St. Canton
Belcher St.

ITEM DESCRIPTION	ITEM	UOM	QUANTITY REQ	QUANTITY ISS	DEPT	ACCT/WORK CODE/WO#
6" PP Washington St		FT	930'			01115-5629653

SAMPLE

RECEIVED BY: APPROVED BY: DATE:

SN 642 4/00 WHITE - WAREHOUSE YELLOW - REQUESTOR

Witness: Cote
D.T.E. 05
Exh. BSG/DGC- 6

MATERIAL LIST

Washington Street, Canton
B04D5098

ITEM	INV#	QUANTITY		
6" Plastic Pipe		930		
6" Plastic Valve		2		
6"X 4" Plastic Reducer		1		
6" Per-Fab Trans Fit		1		
6" Plastic Top Dresser Coupling		1		
6" Steel Stiffeners		2		
6" X 2" Electric Fusion Tees		2		
6" Pre Fab Trans Fit - 2"Save-a-valve Nipple		1		
4" 90° Plastic Elbow		1		
4" Steel Valve		1		
4" Bottom Out Pressure Control		1		
4" 90° Weld Elbows		2		
4" Trans. Fitting		1		
4" Weld End Cap		3		
2" X 2" Electric Fusion Tee		1		
2" Plastic Valve		2		
2" 90° Plastic Elbows		1		
2" Plastic End Cap		2		
2" Trans Fitting		1		
2" Save-a-valve Nipple		2		
2" X 1.5" Weld Reducer		1		
1.5 " 90° Weld Elbows		3		
1.5" Bottom Out Pressure Control		1		
1.5" Weld End Cap		2		
1" Save-a valve Nipple		1		
Valve Boxes		5		

This Job will start in the Summer of 2004

PRO SCAN

B01D5051 Witness: Cote
D.T.E. 05
Exh. BSG/DGC - 6

JAN 2002

COMPLETED

Distribution Work Order

Identification:

0780

House	To House	Street Name	Location Phone	Work Order #
0	0	WASHINGTON ST		4633976-1

Bldg. #	Unit #	Apt. #	Suite #	Town	Work Phone	Initiated Date
				CANTON		10/29/2001

At Lot	To Lot	At Pole	To Pole	At Intersection	Customer Account #	Initiated Time
						13:46

Kit and Grid #	To Intersection	CCS Number	Source
		0-0-0	EMPLOYEE

Customer Name	Entered By	Digging Conditions	Source Name
			NGUYEN WAYNE

SAMPLE

Work:

Work Code	Work Description	Estimated Units	Scheduled Date
TRPEB	MAIN-REPL-TIEIN-PERFORM	1	11-21-01

Leak Priority:

Employee Assigned:

Outgoing Comments: TIE IN MAIN REPLACEMENT

Cause of Leak:

BSG Crew Assigned:

Dig Safe #:

Contr. Crew Assigned:

Job Priority:

Pipe Data:

	New Pipe		Exposed Pipe		Retired Pipe
Pipe Size					
Pipe Type					
Coat Type					
Pressure					
Length					
Cut					
Depth					
Year					
Pipe Cond.					
Coat Cond.					
Pit Depth					
# of Fits					
[illegible]					
Rate Class					

Restoration Needed | Restoration Done | Bill to Customer?

Other Data:

- Anode Inst.
- Flow Limiter Installed
- Flow Limiter Tagged
- Curb Cock Installed
- Meter Barrier Installed
- Meter Fit Installed
- Inside
- Outside
- Soap Test
- Pressure Test
- Pounds/ Square Inch
- Elpsd. PSI Time
- Patch Size Length
- Width

COMPLETED
ECL

3-113

PRO SCAN

B01D5 Witness: Cote
D.T.E. 05 JAN 2002
Exh. BSG/DGC-6

Distribution Work Order

COMPLETED

Identification:

House	To House	Street Name	Location Phone	Work Order #
0	0	WASHINGTON ST		4633968-1

Bldg. #	Unit #	Apt. #	Suite #	Town	Work Phone	Initiated Date
				CANTON		10/29/2001

At Lot	To Lot	At Pole	To Pole	At Intersection	Customer Account #	Initiated Time
						13:45

Kit and Grid #	To Intersection	CCS Number	Source
		0-0-0	EMPLOYEE

Customer Name	Entered By	Digging Conditions	Source Name
			NGUYEN WAYNE

Work:

Work Code	Work Description	Estimated Units	Scheduled Date
MRPEB	MAIN REPL - PERFORMANCE		11-19-01

Leak Priority	Employee Assigned
	353

Outgoing Comments: REPLACE & ABANDON 100' OF 4" BS MAIN

Cause of Leak	BSG Crew Assigned
	333

Dig Safe #	Contr. Crew Assigned

Job Priority

Pipe Data:

New Pipe | Exposed Pipe | Retired Pipe

Pipe Size	4 "
Pipe Type	PLASTIC
Coat Type	BARE
Pressure	INTERMEDT
Length	100
Cut	
Depth	
Year	2001
Pipe Cond.	
Coat Cond.	
Pit Depth	
Fits	0
[illegible]	
Rate Class	

Other Data:

COMPLETED ECL

Anode Inst.	
Flow Limiter Installed	
Flow Limiter Tagged	
Curb Cock Installed	
Meter Barrel Installed	
Meter Fit Installed	
Inside	
Outside	
Soap Test	
Pressure Test	
Pounds/ Square Inch	
Elpsd. PSI Time	
Patch Size Length	
Width	

Restoration Needed | Restoration Done | Bill to Customer?

Project Id: B99D5019
From Date: 12/31/1993
To Date: 12/31/2004

Bay State Gas Company
Work Management System
Detail Project Cost Report

Report Date: 12/8/2004

Export to EXCEL
Print Report

Work Code	Town Code	At Street	Work Order	Pipe Type	Pipe Size	Comp Units	Hours	Labor	Purchases	Materials	Direct Cost	Average Cost	Overhead	Total Cost
TRSIB	169	0 Brook	1567212-1			1	29.55	882.61	0	0	882.61	1,066.61		1949.22
TRSIB	180	0 Oldham	1567190-1	PP	2 "	1	1.73	51.47	1,628.08	0	1679.55	1,679.55	30.88	1710.43
TOTAL Output No. : 170						2	31.28	934.08	1,628.08	0	2,562.16	1,281.08	1,097.49	3,659.65
MRSTC	169	0 Arlene	1567093-1	PP	2 "	537	4.2	149.89	5,308.99	0	5458.88	10.17	107.69	5566.57
MRSTC	169	0 Brook	1567081-1	CS	12 "	2050	153.45	4,519.11	59,100.04	0	63619.15	31.03	4,329.12	67948.27
MRSTC	180	0 Oldham	1567028-1	CS	12 "	4320	253.95	7,414.55	381,233.30	83,589.64	472237.49	109.31	69,408.51	541646
TRSTC	169	0 Arlene	1567124-1			1	0.33	4.66	10,613.16	0	10617.82	10,617.82	4.63	10622.45
TRSTC	169	0 Brook	1567111-1			1	0.29	4.04	0	0	4.04	4.04	5.06	9.1
TRSTC	169	0 Brook	1567206-1	PP	2 "	1	3.38	102.6	750	0	852.6	852.6	89.79	942.39
TRSTC	180	0 Oldham	1567171-1	PP	2 "	1	30.97	820.31	3,410.09	0	4230.4	4,230.40	409.29	4639.69
TOTAL Output No. : 171						6,912.00	446.57	13,015.16	460,415.88	83,589.64	557,020.38	80.59	74,354.09	631,374.47
SRERB	169	16 Arlene	1567263-1	PP	1/2 "	1	3.89	101	825.14	0	926.14	926.14	60.6	986.74
SRERB	169	36 Arlene	1567323-1	PP	1/2 "	1	3.2	83.72	525	0	608.72	608.72	50.23	658.95
SRERB	169	37 Arlene	1567324-1	PP	1/2 "	1	2.71	68.07	1,111.04	0	1179.11	1,179.11	40.84	1219.95
SRERB	169	43 Arlene	1567327-1	PP	1/2 "	1	5.61	147.69	878.74	0	1026.43	1,026.43	88.61	1115.04
SRERB	169	470 Brook	1568038-1	PP	1/2 "	1	9.01	256.29	1,033.42	0	1289.71	1,289.71	206.7	1496.41
SRERB	169	556 Brook	1568051-1	PP	1/2 "	1	2.55	77.65	575	0	652.65	652.65	79.28	731.93
SRERB	169	566 Brook	1568053-1	PP	1/2 "	1	1.55	47.02	807.32	0	854.34	854.34	56.54	910.88
SRERB	169	588 Brook	1568065-1	PP	1/2 "	1	3.61	102.58	860.92	0	963.5	963.5	126.1	1089.6
SRERB	180	262 Oldham	1764118-1	PP	1/2 "	1	3.56	100.51	575	0	675.51	675.51	60.3	735.81
SRERB	180	270 Oldham	1764126-1	PP	1/2 "	1	4.12	117.16	850.35	0	967.51	967.51	70.3	1037.81
SRERB	180	285 Oldham	1764128-1	PP	1/2 "	1	7.74	219.16	800.35	0	1019.51	1,019.51	131.49	1151
SRERB	180	314 Oldham	1764132-1	PP	1/2 "	1	3.35	95.56	678.5	0	774.06	774.06	57.34	831.4
SRERB	180	318 Oldham	1764133-1	PP	1/2 "	1	7.51	208.48	575	0	783.48	783.48	125.08	908.56
SRERB	180	319 Oldham	1764134-1	PP	1/2 "	1	5.16	116.12	850.35	0	966.47	966.47	84.29	1050.76
SRERB	180	323 Oldham	1764135-1	PP	1/2 "	1	0.54	16.21	575	0	591.21	591.21	19.54	610.75
SRERB	180	352 Oldham	1764144-1	PP	1/2 "	1	6.43	180.32	1,171.59	0	1351.91	1,351.91	108.19	1460.1
SRERB	180	385 Oldham	1764145-1	PP	1/2 "	1	24.15	550.93	9,903.06	0	10453.99	10,453.99	247.2	10701.19
TOTAL Output No. : 175						17	94.69	2,488.47	22,595.78	0	25,084.25	1,475.54	1,612.63	26,696.88
TIESIB	169	10 Arlene	1567224-1	PP	1/2 "	1	62.66	1,709.99	475	0	2184.99	2184.99	1,641.97	3826.96
TIESIB	169	20 Arlene	1567276-1	PP	1/2 "	1	10.94	302.42	475	0	777.42	777.42	213.16	990.58
TIESIB	169	25 Arlene	1567307-1	PP	1/2 "	1	7.82	220.58	525	0	745.58	745.58	132.35	877.93
TIESIB	169	30 Arlene	1567311-1			1	5.14	145.09	475	0	620.09	620.09	87.06	707.15
TIESIB	169	436 Brook	1568037-1	PP	1/2 "	1	1.07	32.42	475	0	507.42	507.42	39	546.42
TIESIB	169	510 Brook	1568041-1	PP	1/2 "	1	1.07	32.42	1,093.22	0	1125.64	1,125.64	39	1164.64
TIESIB	169	515 Brook	1568050-1	PP	1/2 "	1	1.07	32.42	475	0	507.42	507.42	39	546.42
TIESIB	169	557 Brook	1568052-1	PP	1/2 "	1	0.8	24.33	475	0	499.33	499.33	29.22	528.55
TIESIB	169	571 Brook	1568058-1	PP	1/2 "	1	0.8	24.33	475	0	499.33	499.33	29.22	528.55
TIESIB	169	572 Brook	1568059-1	PP	1/2 "	1	0.27	8.12	475	0	483.12	483.12	9.8	492.92
TIESIB	169	585 Brook	1568060-1	PP	1/2 "	1	4.11	93.79	525	0	618.79	618.79	125.18	743.97
TIESIB	169	604 Brook	1568066-1			1	8.83	250.16	1,186.33	0	1436.49	1,436.49	307.85	1744.34
TIESIB	180	0 Oldham	1768020-1			1	1.39	42.3	475	0	517.3	517.3	55.67	572.97
TIESIB	180	17 Oldham	1764154-1	PP	1 1/4 "	1	8.37	231.44	525	0	756.44	756.44	148.68	905.12
TIESIB	180	275 Oldham	1764127-1	PP	1/2 "	1	2.37	67.67	475	0	542.67	542.67	40.61	583.28
TIESIB	180	388 Oldham	1764146-1	PP	1/2 "	1	3.9	108	525	0	633	633	74.61	707.61
TIESIB	180	404 Oldham	1764147-1	PP	1/2 "	1	3.9	108	525	0	633	633	74.61	707.61
TOTAL Output No. : 193						17	124.51	3,433.48	9,654.55	0	13,088.03	769.88	1,086.99	15,175.02
TOTAL Project Id : B99D5019 (12/31/1993-12/31/2004)						6,948.00	697.05	19,871.19	494,293.99	83,589.64	597,754.82	86.03	80,151.20	677,906.02
ACTUALS (mains & tie ins)								13,949	462,044	83,590	559,583	1,362	78,452	635,034
ESTIMATED								5,544	168,285	84,774	258,603		72,111	330,714
VARIANCE								(8,405)	(293,759)	1,184	(300,980)	(1,362)	(3,341)	(304,320)

Witness: Cote
D.T.E. 05
Exh. BSG/DGC- 6

B99D5019

Bay State Gas Company
Work Order Management System
Work Order Cost Detail

REPORT PARAMETERS

Report Type	Detail
Order#	1567093
Division	Brockton
Work Type	Distribution
Work Category	(All)
Work Code	(All)
Comp/Cont	(All)
Project ID	
Output #	0000
Source Code	(All)
From Period	199901
To Period	200112

Bay State Gas Company
Work Order Management System
Work Order Cost Detail

Order#: 1567093 Task: 001 Project Id: B99D5019 Work Code: MRSIC Output#: 0171
Town/Street: Hanson/Arlene Stat: 99 09/30/1999

Type	Tran Dt	Acct #	Acct Unit	Source Code	Reference	Vendor/Description	Cost Cat	Units	Cost
L	08/02/99	2014110000	01115	PR	92	PAYROLL EXPENSE	6008	0.00	1.63
L	08/02/99	2014110000	01115	PR	92	PAYROLL EXPENSE	6005	0.68	26.94
L	08/02/99	2014110000	01115	PR	92	PAYROLL EXPENSE	6002	2.48	65.30
L	09/18/99	2014110000	01115	PW	440	PAYROLL EXPENSE	6005	1.04	39.09
L	09/18/99	2014110000	01115	PW	440	PAYROLL EXPENSE	6005	0.00	16.02
L	09/18/99	2014110000	01115	PW	440	PAYROLL EXPENSE	6008	0.00	0.91
						**Total LABOR		4.20	149.89
I	08/31/99	2014110000	01115	AD	20	1145TOWN OF HANSON POLICE	1606	0.00	227.80
I	08/31/99	2014110000	01115	AD	20	1145TOWN OF HANSON POLICE	1606	0.00	232.31
I	09/30/99	2014110000	01115	AD	058330	2657UNIVERSAL CONSTRUCTIO	1609	0.00	1,740.60
I	09/30/99	2014110000	01115	AD	058331	2657UNIVERSAL CONSTRUCTIO	1609	0.00	1,703.50
I	09/30/99	2014110000	01115	AD	058329	2657UNIVERSAL CONSTRUCTIO	1609	0.00	1,404.78
						**Total PURCHASES		0.00	5,308.99
:	08/15/99	2014110000	01AL	FR	FR	FRINGE BENEFITS	4007	0.00	56.32
:	08/20/99	2014110000	01AL	IL	IL	INDIRECT LABOR	4013	0.00	75.09
:	08/25/99	2014110000	01AL	NT	NT	NON PROD LABOR	4014	0.00	37.55
:	09/15/99	2014110000	01AL	FR	FR	FRINGE BENEFITS	4007	0.00	44.82
:	09/20/99	2014110000	01AL	IL	IL	INDIRECT LABOR	4013	0.00	50.42
:	09/25/99	2014110000	01AL	NT	NT	NON PROD LABOR	4014	0.00	18.81
:	09/30/99	2014110000	01AL	VC	VC	VEHICLE CLEARING 001567093001	4001	0.00	6.55
						**Total OVERHEADS		0.00	287.56
	**Task:	1567093-				Task Units:			537.00
						Task Direct Total:			5,458.88
						Direct Avg Cost:			10.17
						Task Total:			5,746.44
						Total Avg Cost:			10.70

continued on next page...

Witness: Cote
D.T.E. 05
Exh. BSG/DGC- 6

Bay State Gas Co. -Y
Work Order Management System
Work Order Cost Detail

Program: wmrpt p
Date: 08/20/2004
Req By: Susan Rullberg

REPORT TOTALS

Hours:	4.20
Labor:	149.89
Purchases:	5,308.99
Materials:	0.00
Units:	537
Direct Total:	5,458.88
Overhead:	287.56
Total:	5,746.44
Direct Avg Cost:	10.17
Total Avg Cost:	10.70

End of Report

BSG/NU OVERRUN EXPLANATION

Field Location: **Brockton**

Witness: Cote
D.T.E. 05
Exh. BSG/DGC-1 6

Project ID# B05D0025 -1 **Work Code** MNNCC

Original Estimate: $37,849.00 **Actual Cost:** $109,749.00 **Variance:** $71,900.00

Prepared By: Joe Construction

DESCRIPTION OF THE PROJECT:

This authorization for this project was originally written for 675 feet of 6-inch plastic main at a cost of $35,372.00. The final cost of the project was $109,749.43 and 1040 feet of plastic main is itemized below for a variance difference of $71,900.

The table below shows the itemized explanation for Brock St. project:

1. The $14,983.22 overrun in the police detail was mostly due to the town mandating 2 detail officers instead of one. In Massachusetts, we have no control of the number officers on a job. The decision was made on the jobsite by the local police department.

2. The supplemental price of the 365 feet of 6-inch pipe that was used during the project was not written in the original Brock St. project blue sheet. The additional footage pipe was needed in order to ensure a good connection between the new plastic main and the existing bare steel main prior to crossing the railroad tracks.

3. The atrocious digging conditions that were met also contributed to the overrun of the project. Approximately 60% of the digging that took place was in an area of solid ledge. In addition to the digging conditions, the excavated materials had to be hauled away in their entirety, causing an increase in disposal fees.

Due to the slow trenching of ledge, the removal of the excavated materials, and the refreshment of fill materials the total cost of the job was significantly increased.

Pipe Added Street Name and Town		Pipe Size	Pipe Type	Footage Estimate	Footage Actual	W.O. # Install	W.O. # Tie-in
Brock Street	Stoughton	6"	HDPP	675	1040	54321	12345

Pipe Retired Street Name and Town		Pipe Size	Pipe Type	Footage Estimate	Footage Actual	W.O. # Install	W.O. # Tie-in
Brock Street	Stoughton	4"	B.S.	675	1040	54321	12345

New Business	<$5K	$5k<$10k	$10k<$100k	>$100k	Date
	Engineering Tech	Operations Engineer	Operations Manager	Mgr. Eng:	
Name:				Gen. Mgr:	
Date:				New Bus Dir:	
	New Business Rep.	Sales Manager		VP Finance:	
Name:				VP Tech Ops:	
Date:					

Replacement & Other	<$10k	$10k<100k	$100k<$250k	All Jobs >=$250k	Date
	Operations Engineer	Operations Manager	Manager Engineering	Mgr. Eng:	
Name:	Peter Tech	Bill Operations	Cynthia Flowers	Gen. Mgr:	
Date:	1/1/2005	1/3/2005	1/5/2005	Dir Finance:	
			General Manager	VP Tech Ops:	
Name:			Daniel Gasman	VP Finance	
Date:			1/7/2005	President:	

BAY STATE GAS CO. AND NORTHERN UTILITIES, INC.

DAILY FIELD INSTALLATION REPORT

Invoice #: 99 003266

Witness: Cote

PROJECT I.D. # B990505E

Exh. BSG/DSC-6

TIME & MATERIAL ONLY ☐

SERVICE: NEW ☐ REPLACEMENT ☐ TIE-OVER ☐ MAIN: NEW ☐ REPLACEMENT ☒ TIE-IN ☐

DATE 11-5-99 WORK ORDER # 1992005 CONTRACTOR NEUBOR

WORK LOCATION PINE ST. TOWN CODE AT

SIZE	PIPE TYPE	PAVED FT.	UNPAVED FT.	NO BACKFILL	SAND ONLY FT	BACKFILL FT	PLOWING FT	TOTAL LENGTH
8"	CS	175.01						175.4

PAVEMENT OVER	PROJECT MAINTENANCE 0 - 300'	301 - 1,000'	1,000' +	WELDER (SERVICES ONLY) YES	NO
in X lin ft			X		
in X lin ft					

SERVICE TOP: TYPE I ☐ TYPE II ☐ TYPE III ☐ TYPE IV ☐ FOUR OR MORE ☐ CUTOFF ☐ SERVICE INSERTION 2 HOLE ☐ 3 HOLE ☐

ADDITIONAL COST MAINS & SERVICES DESCRIPTION	UNIT
SAND	/CU. YD.
GRAVEL	/CU. YD.
PEA STONE	/CU. YD.
FLOWABLE FILL	/CU. YD.
BOULDER REMOVAL	/CU. YD.
LEDGE BLAST	/CU. YD.
LEDGE NO BLAST	/CU. YD.
CONCRETE, COBBLE	/CU. YD.
HAND EXCAVATION	/CU. YD.
FROST REMOVAL	/CU. YD.
STEEL PLATES ____ EA.	/DAY
3 1/2" LALLY COLUMNS	/EA.
4" I BEAM	/EA.
SAWCUT ____ INCHES ____ LIN FT	
MISCELLANEOUS (DESCRIBE):	

EQUIPMENT AND MATERIAL	QUANTITY	DURATION
Backhoe and operator	5	
Front end loader and operator		
Welder and Rig	2 1/2	
Pipe truck and operator		
300# compressor		
Service Truck, tools and compressor	2 1/2	
Dump truck with driver DRIVER	5	
Impactor- hoe ram		
Compressor		
Shoring (certified)		
Pipe Truck		
Crew Unit		
Foreman	2 1/2	
Laborer	5	

T+M = CREW DOWN CAUSE OF X-RAY EQUIPMENT FAILURE. THERE WERE 3 - BUSINESS DRIVEWAYS TO BE PLATED WITH ONLY PLATES ENOUGH FOR 2 DRIVEWAYS. THIS EXPLANATION WAS CALLED IN VIA PHONE TO TOM SHEEHAN. DIGGING HAD TO STOP CAUSE PLATES COULD NOT BE MOVED TILL FIRST X-RAY DONE

EXTRA FITTINGS SIZE	# WELDS OR FUSIONS	TYPE

EXTRA EQUIPMENT			
Hole hog - labor & equipment	inch		HOURS
Boring - labor & equipment	inch		HOURS
			HOURS
			DAY
			DAY
			DAY

COMMENTS: TRENCH PATCHED - 173'

COMPACTION TEST	YES	NO X
TRAFFIC DETAIL	MAN HOURS	9

DEPTH REQUIREMENTS	PSI	TIME
INCHES 40"		
COMPLETE	YES	NO X

COMPANY INSPECTOR [signature]

CONTRACTOR FOREMAN

COMPANY - WHITE INSPECTOR - PINK CONTRACTOR - CANARY SN671 REV 3/99

1/12/2000

Witness: Cote
D.T.E. 05
Exh. BSG/DGC-6

RECEIVED JAN 11 2000 BAY STATE GAS CO. A/P ENTERED

neuco / NEW ENGLAND UTILITY CONSTRUCTORS, INC.
143 SPRING STREET • EVERETT, MASSACHUSETTS 02149
TEL: 617/389-5500 FAX 617/389-4896

RECEIVED BAY STATE GAS CO. A/P

Pine St AT

IN ACCOUNT WITH

Bay State Gas Company
380 Friberg Parkway
Attn: Accounts Payable
Westborough, MA 01581-5039

01140-1609

Date December 8, 1999
Invoice # G2095001-01
Page 1 of 2

Date of Invoice: December 8, 1999
NEUCO Job # 20-95-0-Ga
Dates of Service: 10/15-29/99 11/1-19/99

Terms NET 30
Invoice # G2095001-01
Purchase Order #: 6021514-000-Partial Invoice

SAMPLE

Activity Report jm903
Work Date: 11-05-1999

Location: Pine St, Attleboro 1797005

ITEMS	QUANTITY	U/M	PRICE	AMOUNT
Backhoe & Operator	5.00	HR	65.00	325.00
Welder & Rig	2.50	HR	70.00	175.00
Service Truck	2.50	HR	22.00	55.00
Foreman	2.50	HR	38.75	96.88
Laborer	5.00	HR	28.75	143.75
Dump Truck Driver	5.00	HR	28.75	143.75
Dump Truck	5.00	HR	22.00	110.00
			SUBTOTAL	1,049.38

Activity Report 1797005
Work Date: 11-16-1999 2 sheet

Location: Pine St, Attleboro

ITEMS	QUANTITY	U/M	PRICE	AMOUNT
Foreman	3.50	HR	38.75	135.63
Laborer	3.50	HR	28.75	100.63
Backhoe & Operator	3.50	HR	65.00	227.50
Install 12" Pipe	7.50	LF	5.07	38.03
Fernco Coupling	1.00	EA	26.32	26.32
Cement	1.00	BAG	7.33	7.33
			SUBTOTAL	535.44

Please Code, Approve and Return to Accounts Payable. Thank you

B99 D5019 **Oldman Street, Pembroke and Brook Street, Hanson**

Actual:	$559,583
Estimate:	$258,603
Variance:	$300,980
	116% over

This system improvement project replaced over a mile of 8" diameter bare steel main installed in 1952 with 12" coated steel pipe, more than doubling the line capacity and improving gas delivery to a rapidly growing area of southeastern Massachusetts.

Contractor invoices and daily field inspector reports document charges for at least 35 extra welds of the new 12" main at $500 each. Each weld indicates extra work to get over, under or around a below ground obstruction such as a drain, sewer or water line.

The Town of Hanson chose to use the utility project to widen Brook Street. Extra pavement cuts, removal and resurfacing costs were incurred to comply with the town's decision to widen the street. Additional, unplanned paving for 1900 feet and cold planning 1065 square yards added more than added $65,000 to the final project cost. Police details were needed for a larger work space and a longer project than originally estimated, adding more costs.

Samples of contractor invoices and daily field inspector reports are provided.